

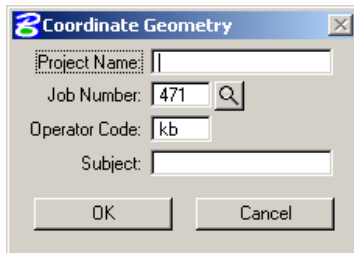
COGO (1-1-2012)

There are many different methods for storing an alignment in GeoPak:

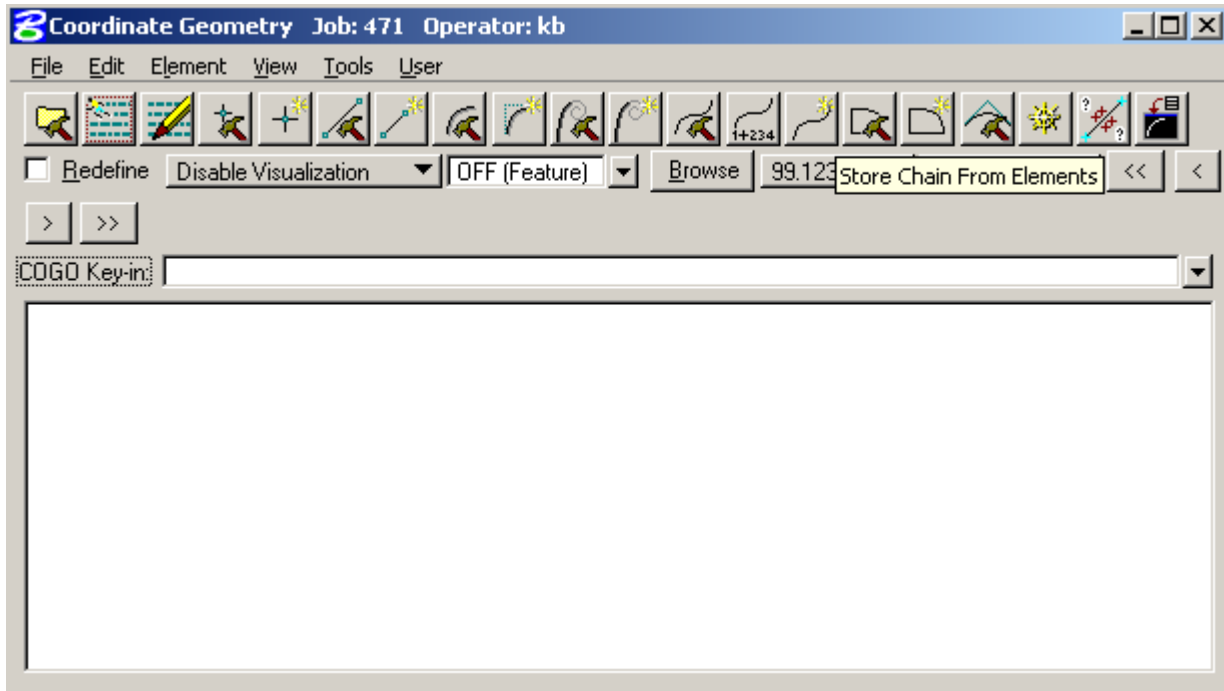
1. Civil Geometry – Preferred & easiest method which stores the alignment in the DGN as well as the GPK file. See Civil Geometry Help for Steps.
2. Through GeoPak COGO – Not the easiest method but steps are shown below.
3. Store Graphics – Elements are drawn in Microstation with Microstation commands and then GeoPak's Store Graphics is used to store the elements in the GPK file.

GPK file – Job***.gpk is GeoPak's Coordinate Geometry database. There should be 1 per project.

GeoPak COGO (Steps for Storing a chain through COGO)



You will enter a 1-3 character Job Number and a 2 character Operator Code. This will be the Job Number you enter everytime for this specific project. Once you tag OK, the file JOBjobnumber.GPK (job471.gpk) will be created and the COGO dialog shown below will be invoked.



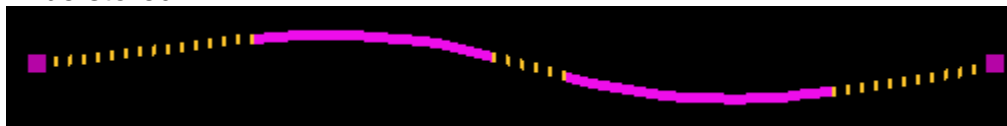
This dialog has two ways to enter cogo commands. One is through the COGO Keyin area. The other is by tagging Element or Tools at the top of the menu and selecting the appropriate dialog based method. The primary commands you will need to know are shown below.

NOTES:

1. Do not worry about Stationing until you store the chain.
2. You can't use one point or curve in more than one chain.

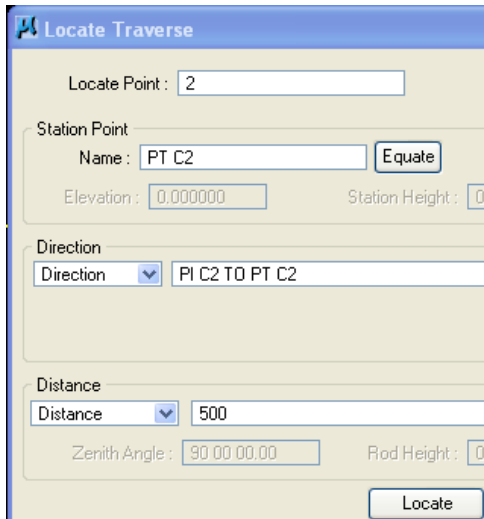
a) Determine what elements (points, curves, spirals) need to be stored.

You can do this by covering or erasing the tangents of an alignment because tangents are not stored. The points, curves, spirals left are the elements that need to be stored.



To store the chain above, you would store 2 points and 2 curves.

b) STORE the Points, Curves, and/or Spirals of the alignment. (See most used commands below.)



Locate Traverse

Locate Point : 2

Station Point
Name : PT C2 Equate

Elevation : 0.000000 Station Height : 0

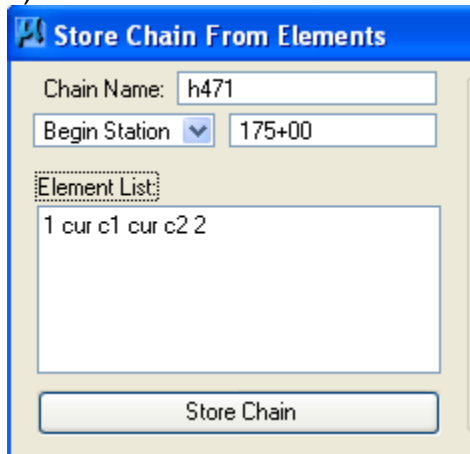
Direction
Direction : PI C2 TO PT C2

Distance
Distance : 500

Zenith Angle : 90 00 00.00 Rod Height : 0

Locate

c) STORE the Chain.



Store Chain From Elements

Chain Name: h471

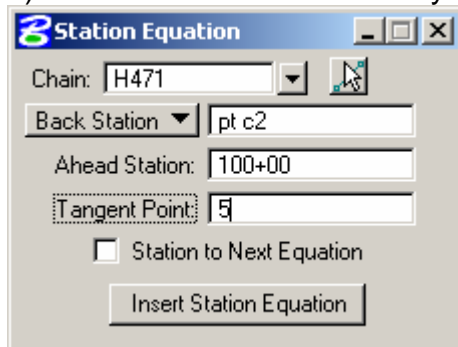
Begin Station : 175+00

Element List
1 cur c1 cur c2 2

Store Chain

d) SET RED (Only if there is Equations in your Alignment.)

e) STORE EQUATIONS if they are present.



Station Equation

Chain: H471

Back Station : pt c2

Ahead Station: 100+00

Tangent Point: 5

☐ Station to Next Equation

Insert Station Equation

f) SAVE FILE ____ (Where ____ is the name of your Chain.)

NOTE: This command saves the COGO commands you just typed to a file in your directory so that you can later LOAD, EDIT, & Re-READ the commands to correct any errors in the Chain. If you do not perform this command you will not be able to edit these commands if errors are present in your Chain. The file created is named ChainnameJobNumber.iOperatorCode such as h471471.ijd)

g) CLEAR

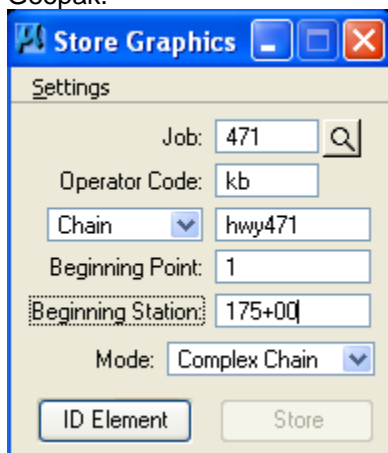
This step clears the current COGO lines or Input File and initializes the line #'s to

begin a new problem.

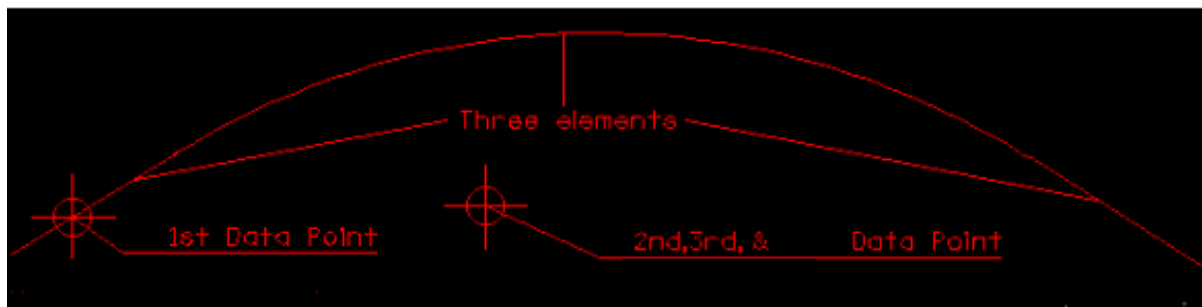
- h) DESCRIBE CHAIN ____ (Where ____ is the name of your Chain.)
This step describes the chain you just stored. This is the first step in checking to see if your Alignment was stored correctly.
- i) OUT FILE ____ (Where ____ is the name of your Chain.)
This command saves description of the Chain to a file in your directory (See Topic: Printing of COGO Data)
- j) CLEAR
To Initialize the line #'s to begin a new problem.
- or -
- k) EXIT
Exits the COGO Session.
- l) PLOT your Chain in a design file for another check on the COGO Input.

STORE ALI FROM DGN ELEMENTS (STORE GRAPHICS)

This dialog allows the user to store a series of connected lines and arcs in Microstation as a Chain in Geopak.



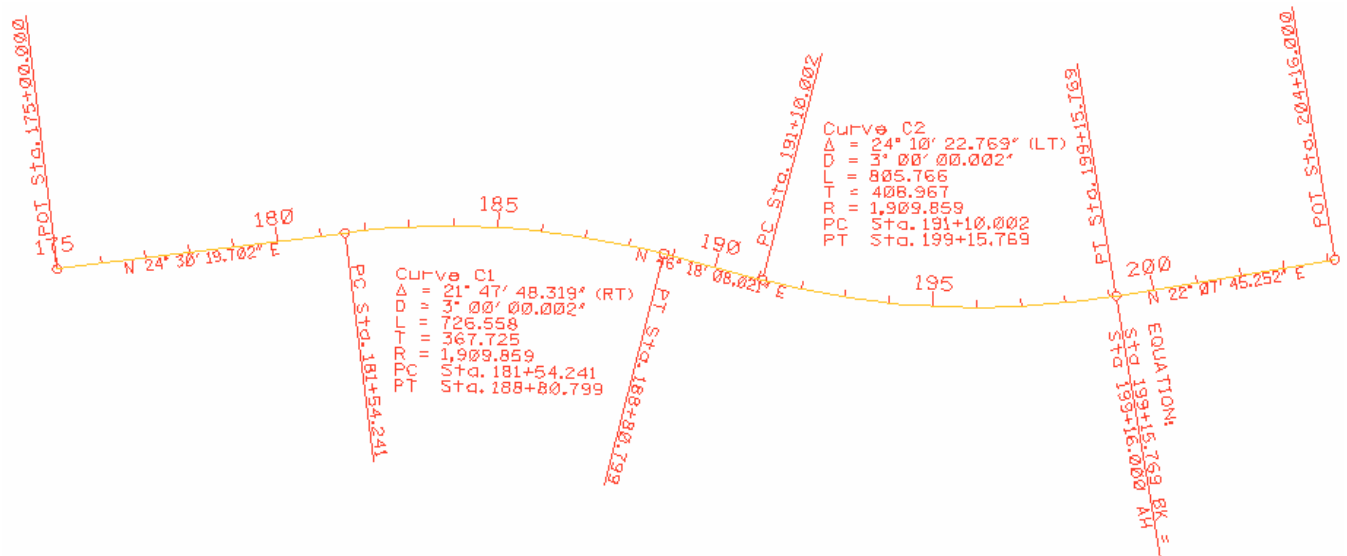
Example: You constructed the following figure in Microstation and want to store it as a chain.



STORE ALIGNMENT FROM ASBUILTS

Creates COGO Input file based on user entered BOP, PC's, PT's, Curve Degree's, EQN's, and EOP. This would generally be used to input an AsBuilt Mainline Alignment.

Example:



User enters:

JOB #

Initials

Alignment Name

Beg. Point # 1

Beg. Coordinates

Beg. Bearing n 24 30 19.702 e

BOP 17500

Choose PC_Sta

PC 18154.241

PT 18880.799

Curve RT

Deg. 3 00 00.002

PC 19110.002

PT 19915.769

Curve LT

Deg. 3 00 00.002

EQN BK 19915

EQN AH 19916

EOP 20416

& the following Input file is created which can be loaded into COGO and read to create the Chain.

STO 1 18706.3899 29035.1192

STO CUR ch471-1 PB 1 DB n 24 30 19.702 e TL 654.2410 d 3 p l 726.5580

STO CUR ch471-2 PB PT ch471-1 DB PI ch471-1 to PT ch471-1 TL 229.2030 d 3 m l 805.7670

LOC 3 From PT ch471-2 500.0000 PI ch471-2 to PT ch471-2

STO CHA h471 1 CUR ch471-1 CUR ch471-2 3 STA 17500.0000

STO EQN CHA h471 19915.7690 = 19916.0000 2